

In the Claims:

1. (Currently Amended) A planning system for planning a cryosurgical ablation procedure, comprising:

(a) a first imaging modality for creating digitized preparatory images of an intervention site;

(b) a three-dimensional modeler for creating a three-dimensional model of said intervention site, said three-dimensional model being based on said digitized preparatory images and optionally being further based on first operator input identifying selected tissues within said three-dimensional model; and

(c) a simulator for simulating a cryosurgical intervention, which simulator comprises:

(i) an interface useable by an operator for inputting second operator input for specifying operator-specified loci for insertion of simulated cryoprobes into a space defined by said three-dimensional model, said interface being further useable by said operator for specifying operator-specified and operational parameters for operation of said simulated cryoprobes for cryoablating tissues; and

(ii) a displayer for displaying in a common virtual space an integrated image comprising a display of said three-dimensional model of said intervention site and a virtual display of said simulated cryoprobes inserted at said operator-specified loci.

2. (Original) The planning system of claim 1, further comprising a memory for storing said specified loci for insertion of cryoprobes and said operational parameters for operation of said cryoprobes.

3. (Original) The planning system of claim 1, wherein said first imaging modality is selected from the group consisting of magnetic resonance imaging, ultrasound imaging and computerized tomography imaging.

4. (Original) The planning system of claim 1, wherein said three-dimensional model is expressible in a three-dimensional Cartesian coordinate system.

5. (Original) The planning system of claim 1, wherein said interface also serves for highlighting selected regions within said three-dimensional model.

6. (Original) The planning system of claim 5, wherein said integrated image further comprises a display of an operator-highlighted regions.

7. (Currently Amended) The planning system of claim 5, wherein said interface is useable by an operator for specifying ~~identifying~~ tissues to be cryoablated.

8. (Currently Amended) The planning system of claim 7, wherein said integrated image further comprises a display of said operator-specified ~~identified~~ tissues to be cryoablated.

9. (Currently Amended) The planning system of claim 5, wherein said interface is useable by an operator for specifying ~~identifying~~ tissues to be protected from damage during cryoablation.

10. (Currently Amended) The planning system of claim 9, wherein said integrated image further comprises a display of said operator-specified ~~identified~~ tissues to be protected from damage during said cryoablation.

11. (Currently Amended) The system of claim 1, further comprising a predictor for predicting an effect on tissues of the patient of operation of said cryoprobes at said operator-specified loci according to said operator-specified operational parameters.

12. (Currently Amended) The system of claim 11, wherein said ~~model~~ ~~displayer~~ additionally displays in said common virtual space a representation of said predicted effect.

13. (Original) The system of claim 11, further comprising an evaluator for comparing said predicted effect to an operator-defined goal of said procedure.

14. (Original) The system of claim 13, wherein said evaluator is for identifying areas of predicted less-than-total destruction of tissues within a volume of desired total destruction of tissues as defined by an operator.

15. (Currently Amended) The system of claim 13, wherein said evaluator is for determining ~~identifying whether~~ whether areas specified by an operator as requiring protection during cryoablation ~~which may~~ will be endangered by an operator-specified planned cryoablation procedure.

16. (Currently Amended) The system of claim 1, further comprising a recommender for recommending cryosurgical procedures to an operator, said recommendation being based on operator-specified goals of a cryoablation procedure, ~~said goals being specified by said operator,~~ and further being based on said three-dimensional model of said site, and further being based on said operator-selected loci.

17. (Original) The system of claim 16, wherein said recommender recommends an optimal number of cryoprobes for use in a cryoablation procedure.

18. (Previously Presented) The system of claim 16, wherein said recommender recommends an optimal temperature for a cryoprobe to be used during a cryoablation procedure, said cryoprobe being situated at one of said operator-specified loci.

19. (Previously Presented) The system of claim 16, wherein said recommender recommends an optimal duration of cooling for a cryoprobe for use in a cryoablation procedure, said cryoprobe being situated at one of said operator-specified loci.

20. (Original) The system of claim 17, wherein said recommendation is based on a table of optimal interventions based on expert recommendations.

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21. (Original) The system of claim 17, wherein said recommendation is based on a table of optimal interventions based on compiled feedback from a plurality of operators.

22. (Original) The system of claim 17, wherein said recommendation comprises specific locations for insertion of a cryoprobe to affect cryoablation.

23. (Original) The system of claim 16, wherein said recommended procedures are for cryoablation of tissues of a prostate.

24. (Original) The system of claim 23, wherein said recommended procedures are for treating BPH.

25. (Original) The system of claim 23, wherein said recommended procedures are for treating BPH percutaneously.

26. (Original) The system of claim 25, wherein said recommended procedures are for treating BPH transperineally.

27. (Original) The system of claim 23, wherein said recommended procedures are for treating a mass.

28. (Original) The system of claim 27, wherein said recommended procedures are for treating a malignancy.

29. (Previously Presented) The system of claim 20, wherein said table comprises a measure of volume of a prostate.

30. (Previously Presented) The system of claim 20, wherein said table comprises a measure of length of a stricture of a urethra.

31. (Previously Presented) The system of claim 20, wherein said table comprises a measure of symptomatic severity of a BPH condition.

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32. (Original) The system of claim 31, wherein said measure of symptomatic severity of a BPH condition is an AUA score.

33. (Previously Presented) The system of claim 16, wherein said recommendation is of multiple cryoprobes closely placed so as to ensure a continuous cold field sufficient to ensure complete destruction of tissues within a target volume, while minimizing damage to tissues outside said target volume.

34-148. (Withdrawn)

149. (Previously Presented) The system of claim 11, wherein said predictor predicts size and position of an iceball created by operation of said cryoprobes at said loci according to said operational parameters.

150. (Previously Presented) The system of claim 11, wherein said predictor predicts size and position of an area of total tissue destruction created by operation of said cryoprobes at said loci according to said operational parameters.

151. (Previously Presented) The system of claim 11, wherein said predictor predicts size and shape of a prostate two or more weeks after operation of said cryoprobes at said loci according to said operational parameters.

152. (Previously Presented) The system of claim 11, wherein said interface is operable to provide to a user graphic feedback of predicted results of operation of said cryoprobes at said loci according to said operational parameters.

153. (Previously Presented) The system of claim 16, wherein said recommender is operable to report a recommended temperature of a recommended duration for a probe located at one of said operator-selected loci.

154. (Previously Presented) The system of claim 16, wherein said recommender is operable to recommend a preference among a plurality of operating

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schema, wherein each schema presents one or more user-designated plans for placement and operation of at least one cryoprobe.

155. (New) A planning system for planning a cryosurgical ablation procedure, comprising:

- (a) a first imaging modality for creating digitized preparatory images of an intervention site;
- (b) a three-dimensional modeler for creating a three-dimensional model of said intervention site based on said digitized preparatory images;
- (c) a simulator for simulating a cryosurgical intervention, which comprises:
 - (i) an interface useable by an operator for specifying operator-specified loci for insertion of cryoprobes and operational parameters for operation of said cryoprobes for cryoablating tissues; and
 - (ii) a displayer for displaying in a common virtual space an integrated image comprising a display of said three-dimensional model of said intervention site and a virtual display of simulated cryoprobes inserted at said operator-specified loci; and
- (d) a predictor for predicting an effect on tissues of the patient of operation of said cryoprobes at said operator-specified loci according to said operator-specified operational parameters, said predictor being operable to predict size and shape of a prostate two or more weeks after said operation of said cryoprobes.